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**In the claims:**

Please amend claims 1, 11, 17, and 20 as follows:

- 5 1. (currently amended) A voltage sensor circuit comprising:  
a source-input node having a source-input voltage that is varied by a voltage source, the  
voltage sensor circuit sensing the source-input voltage of the source-input node;  
~~a stable node having a stable voltage that is relatively insensitive to changes in a supply~~  
~~voltage;~~  
10 a first current source, responsive to the source-input voltage, for generating a first current  
that varies with variations in the source-input voltage;  
a first resistor, coupled to the first current source and receiving the first current, for  
generating a compare-input voltage on a compare-input node in response to the  
first current, the compare-input voltage varying with variations in the first current;  
15 a second current source for generating a second current that is insensitive to variations in  
the source-input voltage;  
a second resistor, coupled to the second current source and receiving the second current,  
for generating a reference voltage on a reference node in response to the second  
current, the reference voltage ~~not~~ varying with variations in the second current;  
20 a stable node, coupled to the first current source and coupled to the second current  
source, the stable node having a stable voltage that is relatively insensitive to  
changes in a supply voltage; and  
a comparator coupled to the compare-input node and the reference node, for comparing  
the compare-input voltage to the reference voltage and generating an output  
25 voltage at an output node that indicates when the compare-input voltage is above  
the reference voltage.
2. (withdrawn) The voltage sensor circuit of claim 1 wherein the first current  
source is a substrate-sensing transistor having a substrate node driven by the  
30 source-input voltage and a gate driven by a constant bias voltage, the substrate-  
sensing transistor conducting the first current between the stable node and the  
compare-input node,

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wherein the first current through the substrate-sensing transistor varies with variations in the source-input voltage,  
whereby a substrate-sensing current source generates the first current.

5 3. (withdrawn) The voltage sensor circuit of claim 2 wherein the substrate-sensing transistor is a p-channel transistor and the substrate node is an N-well.

4. (withdrawn) The voltage sensor circuit of claim 3 wherein the constant bias voltage is a ground.

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5. (withdrawn) The voltage sensor circuit of claim 4 wherein the second current source is a second p-channel transistor having a substrate node connected to the stable node and a gate driven by the constant bias voltage, the second p-channel transistor conducting the second current between the stable node and the reference node.

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6. (withdrawn) The voltage sensor circuit of claim 5 wherein a cross-over voltage of the source-input voltage that causes the output voltage to change states varies less than +/- 8% over a temperature range from -40 to +85 degrees C.

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7. (original) The voltage sensor circuit of claim 1 wherein the first current source comprises:

a first mirror transistor having a channel that conducts the first current between the stable node and the compare-input node in response to a first gate node;

25 a first setting transistor, with a gate connected to the first gate node, having a channel that conducts a first setting current between the stable node and the first gate node;

a first sensing transistor having a channel that conducts a portion of the first setting current from the first gate node, the first sensing transistor having a gate connected to the source-input voltage;

30 wherein the second current source comprises:

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a second mirror transistor having a channel that conducts the second current between the stable node and the reference node in response to a second gate node;

a second setting transistor, with a gate connected to the second gate node, having a channel that conducts a second setting current between the stable node and the second gate node; and

a second sensing transistor having a channel that conducts a portion of the second setting current from the second gate node, the second sensing transistor having a gate connected to a fixed voltage.

10 8. (original) The voltage sensor circuit of claim 7 wherein the fixed voltage applied to the gate of the second sensing transistor is the stable voltage.

9. (original) The voltage sensor circuit of claim 8 wherein the first and second mirror transistors and the first and second setting transistors are p-channel transistors;  
15 wherein the first and second sensing transistors are n-channel transistors.

10. (original) The voltage sensor circuit of claim 9 wherein a cross-over voltage of the source-input voltage that causes the output voltage to change states varies less than +/- 4% over a temperature range from -40 to +85 degrees C.

20 11. (currently amended) The voltage sensor circuit of claim 7 further comprising:  
a voltage generator for generating the stable voltage on the stable node that is  
independent of a supply voltage of the supply voltage to the comparator.

25 12. (original) The voltage sensor circuit of claim 11 wherein the voltage generator is a band-gap voltage generator.

13. (original) The voltage sensor circuit of claim 12 wherein the comparator is powered by the supply voltage.

30 14. (withdrawn) A substrate-sensing voltage sensor comprising:

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- a voltage generator for generating a stable voltage on a stable node, the stable voltage being relatively insensitive to variations in a supply voltage;
- a comparator that generates an output by comparing voltages of a compare-input node and a reference node;
- 5 a first transistor having a channel connected between the stable node and the compare-input node, with a gate connected to a bias voltage and a substrate connected to a source-input voltage that is varied by a voltage source;
- a first resistor connected between the compare-input node and a ground;
- a second transistor having a channel connected between the stable node and the reference
- 10 node, with a gate connected to the bias voltage; and
- a second resistor connected between the reference node and the ground,
- whereby the source-input voltage from the voltage source is sensed by substrate-sensing of the first transistor.
- 15 15. (withdrawn) The substrate-sensing voltage sensor of claim 14 wherein the first transistor is a p-channel transistor with a source connected to the stable node, a drain connected to the compare-input node, and the source-input voltage connected to a n-type substrate or an N-well under the first transistor;
- wherein the second transistor is a p-channel transistor with a source connected to the
- 20 stable node, a drain connected to the reference node, and the stable voltage connected to a n-type substrate or an N-well under the second transistor.
16. (withdrawn) The substrate-sensing voltage sensor of claim 15 wherein the bias voltage is the ground,
- 25 whereby the first and second transistors have grounded gates.
17. (currently amended) A temperature-insensitive voltage sensor comprising:
- an input voltage from a varying voltage source;
- compare means, having a first input and a second input, for comparing voltages on the
- 30 first and second inputs to generate an output;

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first resistor means, receiving a first current, for generating a compare voltage on the first input of the compare means;

first mirror transistor means, having a gate connected to a first gate node, for generating the first current from a stable node to the first input of the compare means and to the first resistor means;

first current-source transistor means, having a gate and a drain connected to the first gate node and a source connected to the stable node, for generating a first gate voltage on the first gate node;

first sensing transistor means, having a gate driven by the input voltage, for varying a first sink current from the first gate node in response to the input voltage;

second resistor means, receiving a second current, for generating a reference voltage on the second input of the compare means;

second mirror transistor means, having a gate connected to a second gate node, for generating the second current from the stable node to the second input of the compare means and to the second resistor means;

second current-source transistor means, having a gate and a drain connected to the second gate node and a source connected to the stable node, for generating a second gate voltage on the second gate node; and

second sensing transistor means, having a gate driven by a constant voltage, for generating a second sink current from the second gate node;

~~whereby variations in the first current due to temperature variations are compensated by variations in the second current that are due to the temperature variations.~~

18. (original) The temperature-insensitive voltage sensor of claim 17 further comprising: stable-voltage generator means for generating a stable voltage on the stable node, the stable voltage being insensitive to a supply voltage to the compare means.

19. (original) The temperature-insensitive voltage sensor of claim 18 wherein the first and second sensing transistor means are n-channel transistors having grounded sources;

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wherein the first and second mirror transistor means are p-channel transistors having  
sources connected to the stable node;

wherein the first and second current-source transistor means are p-channel transistors  
having sources connected to the stable node and each having a drain shorted to a  
gate.

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20. (currently amended) The temperature-insensitive voltage sensor of claim 19  
wherein the constant voltage to the gate of the second sensing transistor means ~~is a~~ is  
the stable voltage.

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